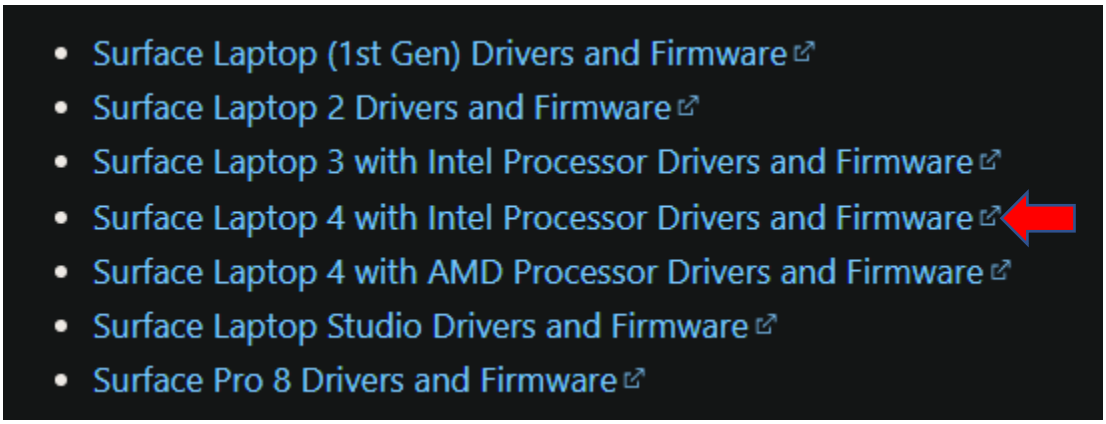
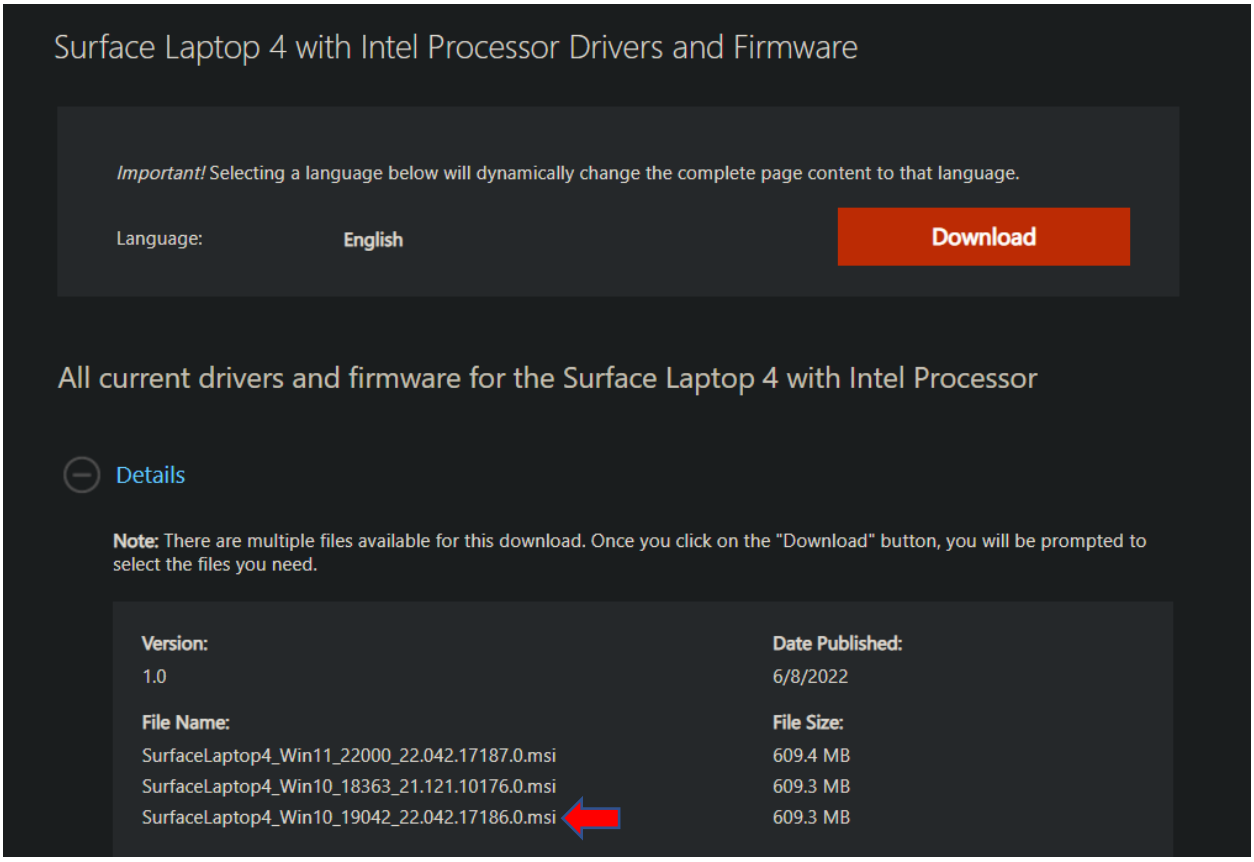
How to inject keyboard, mouse & touch screen drivers to WINPE for Surface Pro Laptop 4

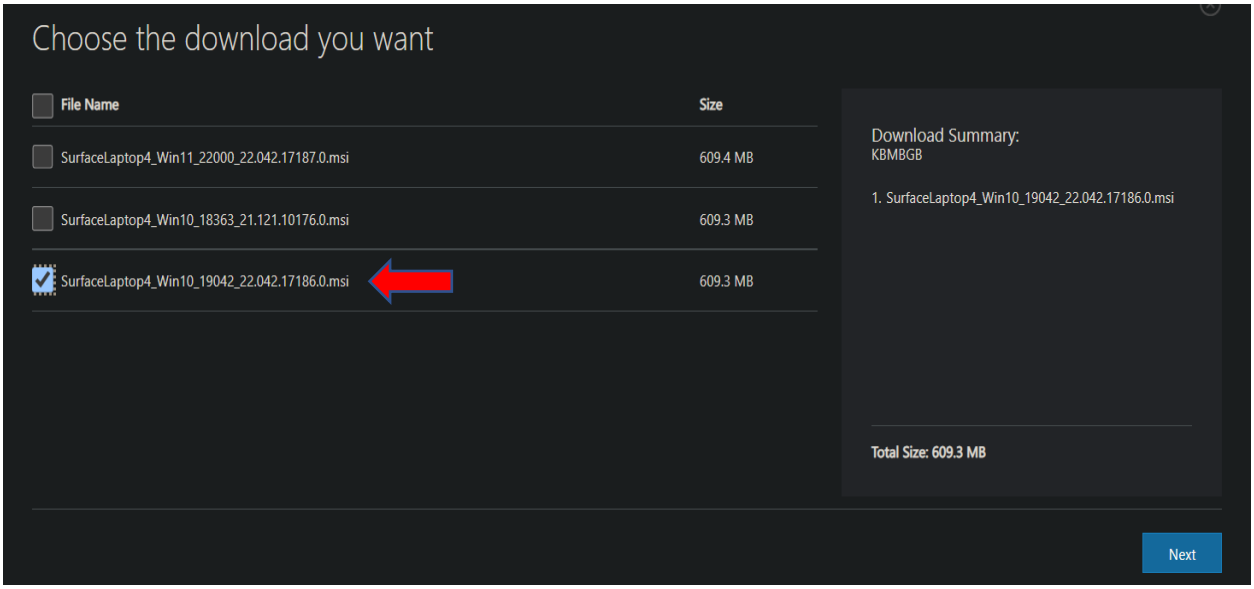
In this post, I am going to show you how to inject necessary drivers to WINPE pertaining to Surface Pro Laptop 4.

First download the MSI from here - https://docs.microsoft.com/en-us/surface/enable-surface-keyboard-for-windows-pe-deployment



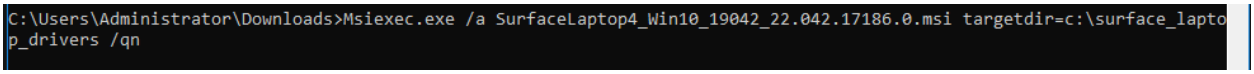
https://www.microsoft.com/en-us/download/102924

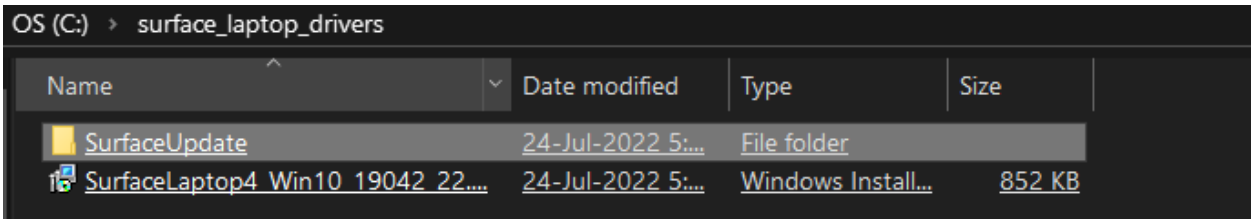




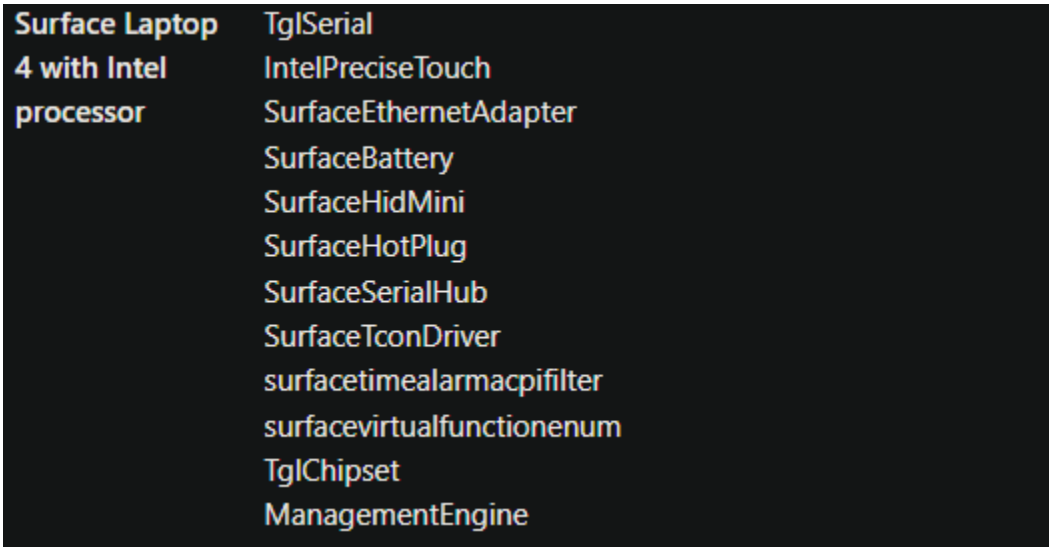
Extract the file from MSI running this command

Msiexec.exe /a SurfaceLaptop4_Win10_19042_22.042.17186.0.msi targetdir=c:\surface_laptop_drivers /qn

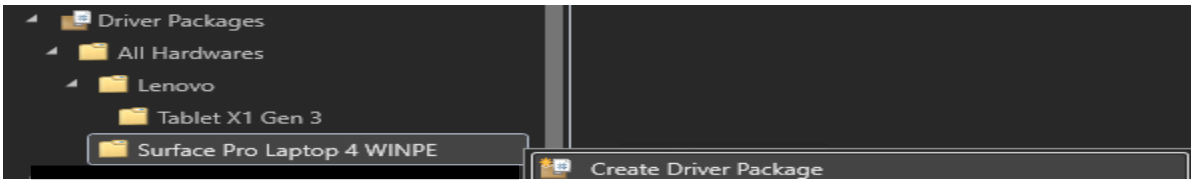


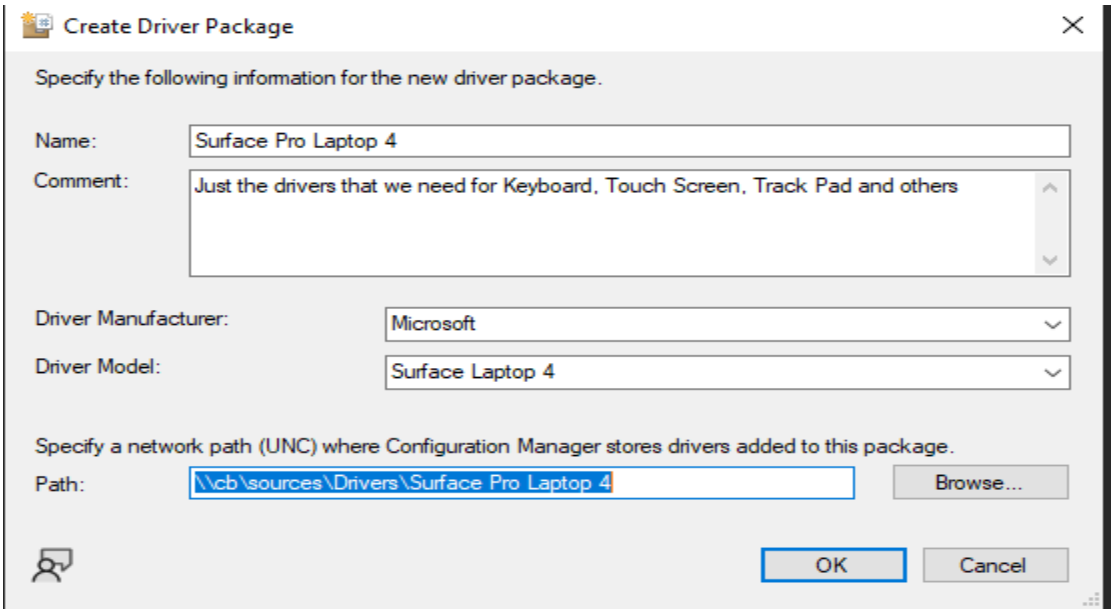


These are the drivers we need to add to WINPE for touch screen and keypad works during PXE boot.

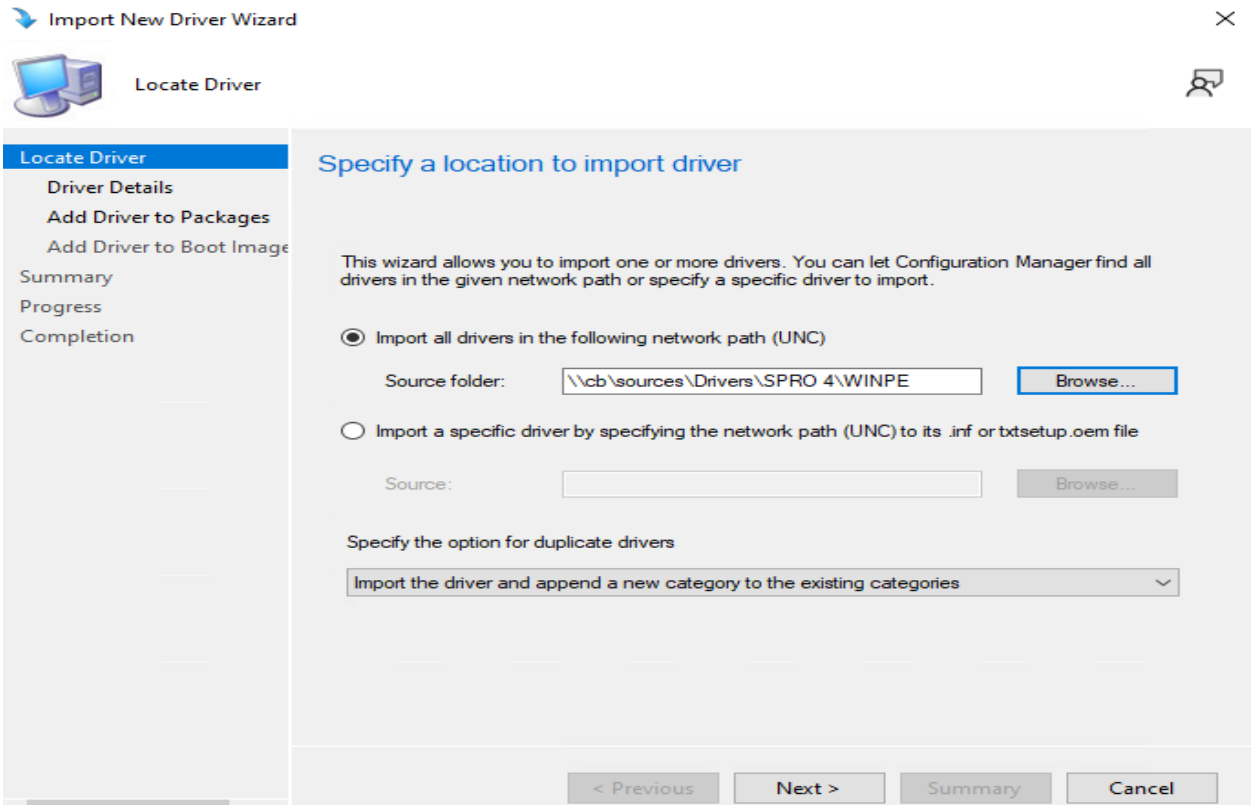


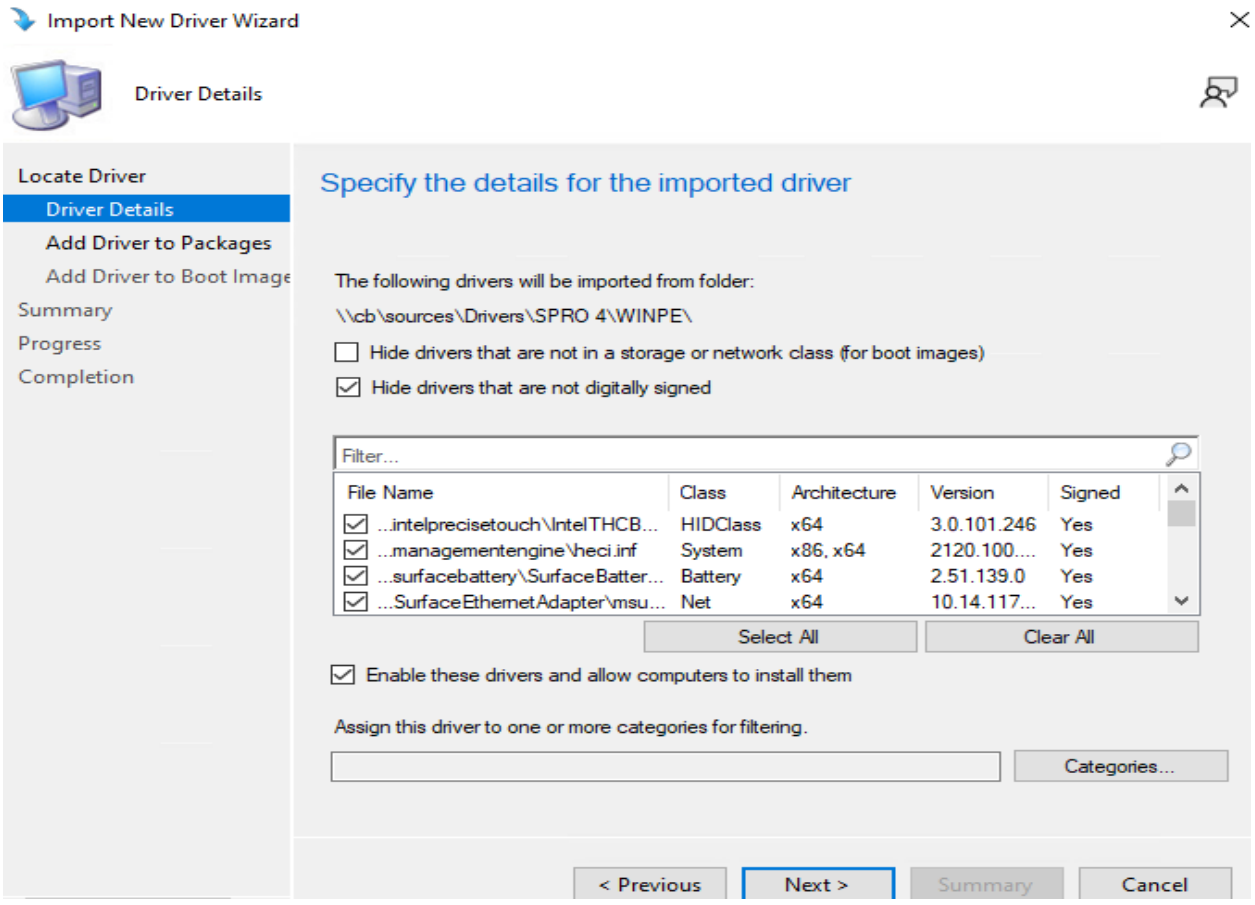
In this post, I am going to show how to do within SCCM. Same steps but little bit different with MDT.

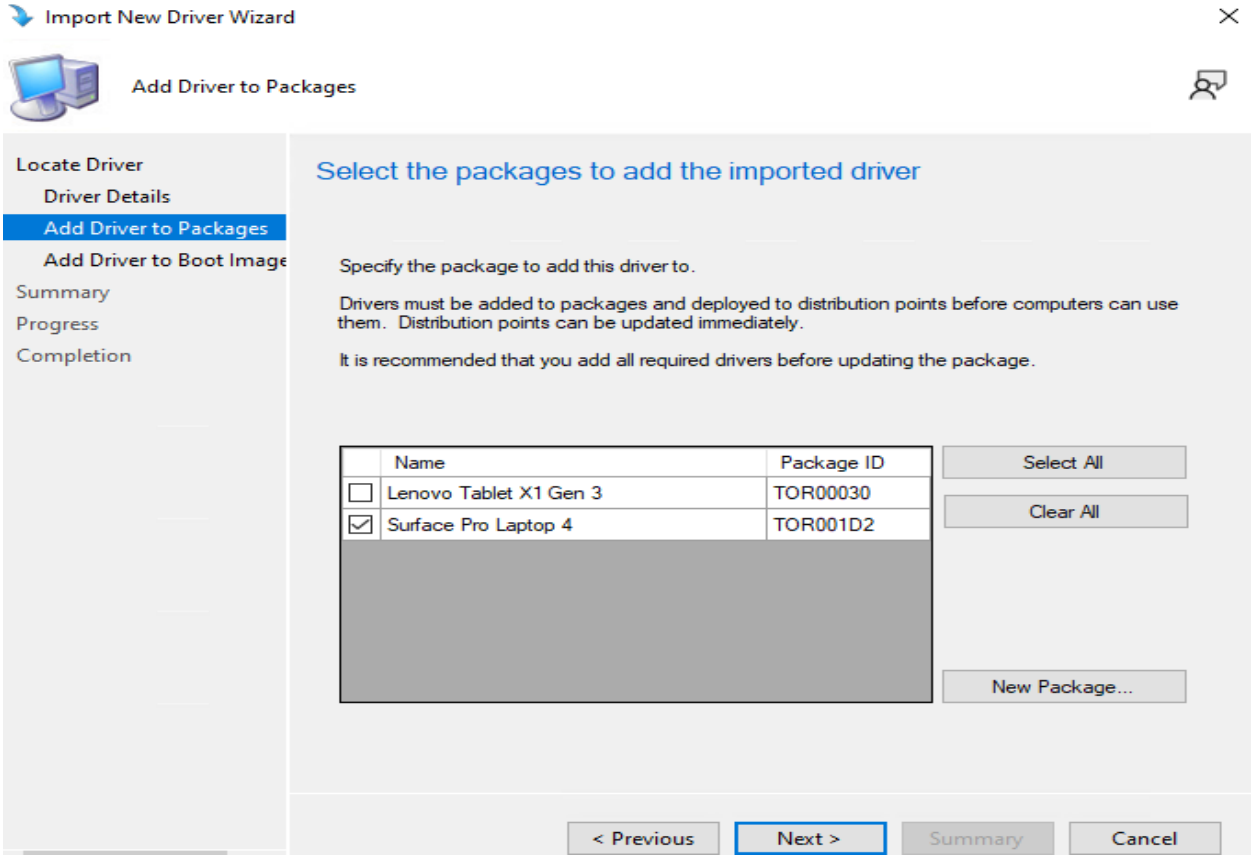


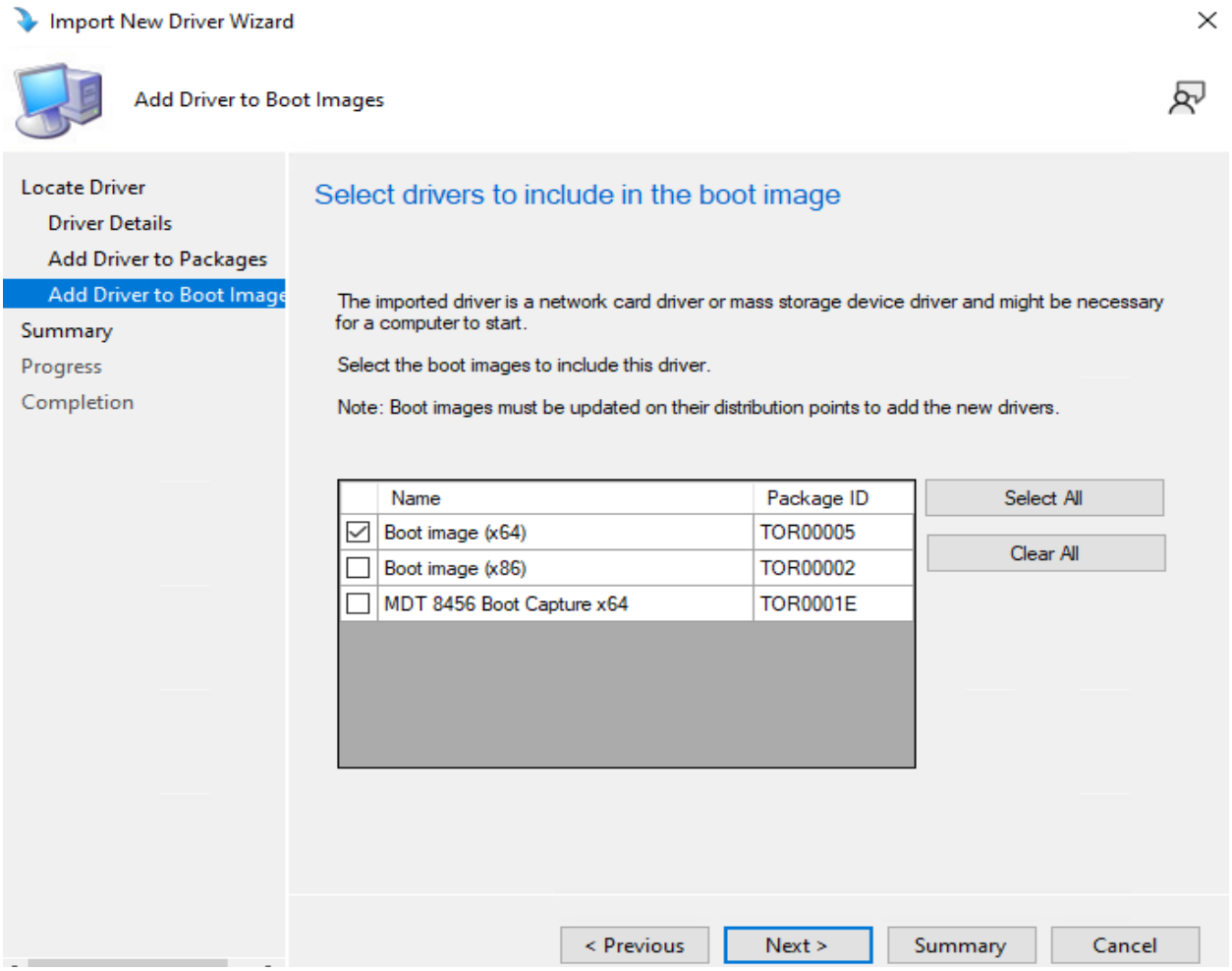


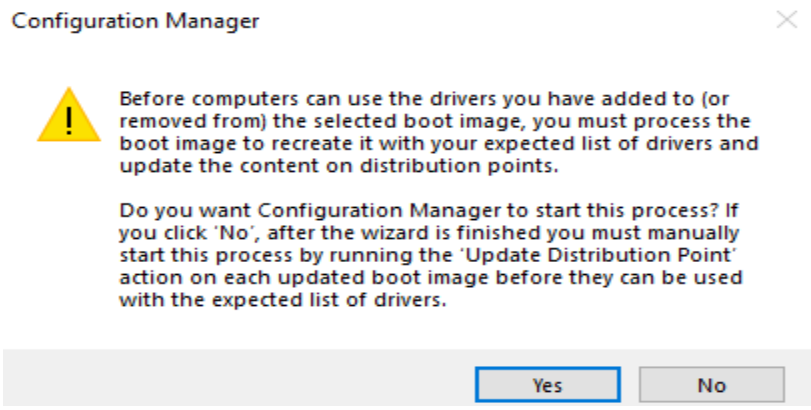
Now go to Drivers – Import Drivers – Select the folder where we copied just the drivers for WINPE.

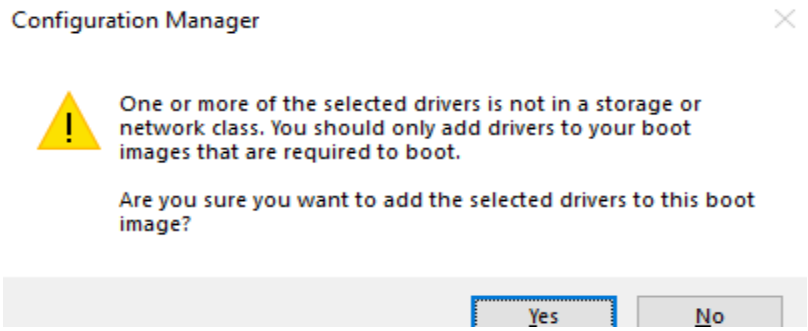


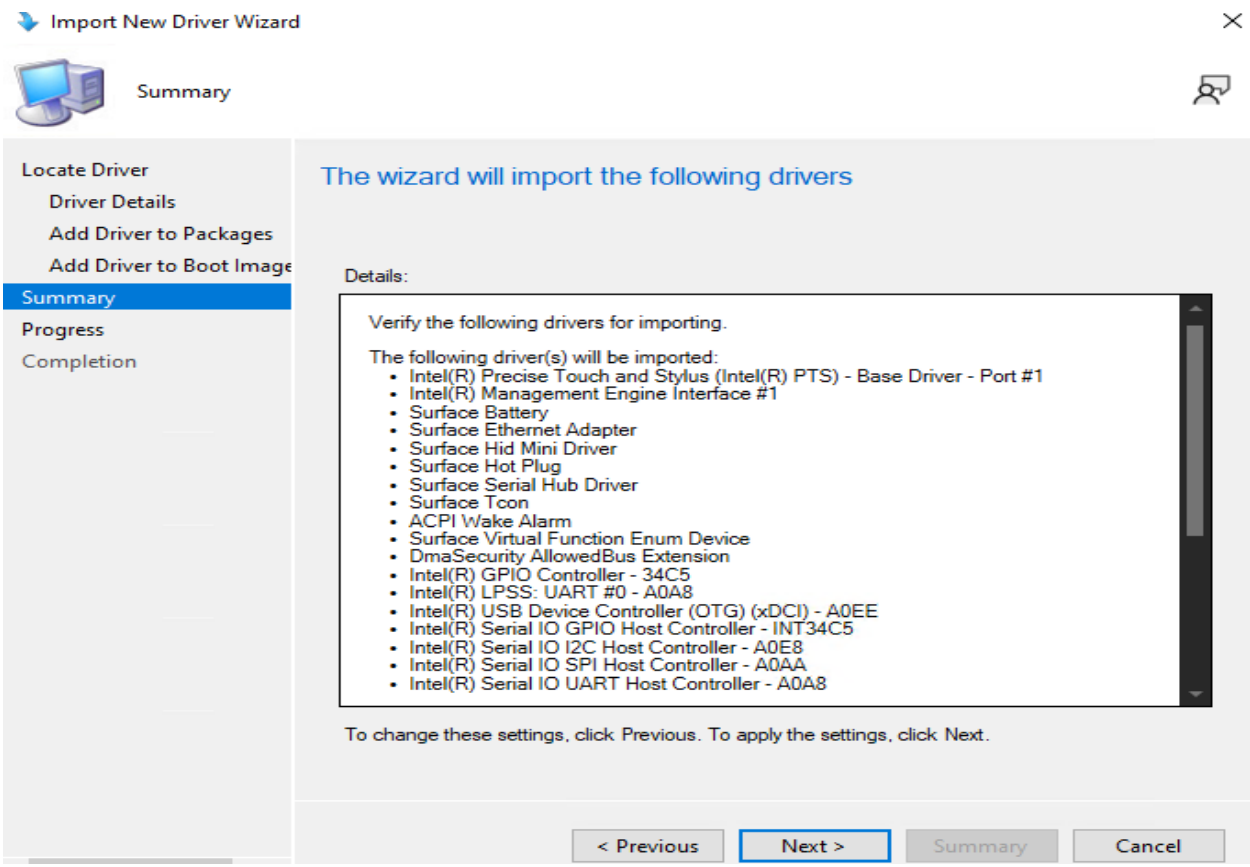

Import New Driver Wizard
Driver Details
Locate Driver
Driver Details
Add Driver to Packages
Add Driver to Boot Image
Summary
Progress
Completion
Specify the details for the imported driver
The following drivers will be imported from folder:
\\cb\sources\Drivers\SPRO 4\WINPE\
Hide drivers that are not in a storage or network class (for boot images)
Hide drivers that are not digitally signed
Filter...
File Name
Class
Architecture
Version
Signed
...intelprecisetouch\IntelTHCB...
HIDClass
x64
3.0.101.246
Yes
...managementengine\heci.inf
System
x86, x64
2120.100....
Yes
...surfacebattery\SurfaceBatter...
Battery
x64
2.51.139.0
Yes
...SurfaceEthernetAdapter\msu...
Net
x64
10.14.117...
Yes
Select All
Clear All
Enable these drivers and allow computers to install them
Assign this driver to one or more categories for filtering.
Categories...
< Previous
Next >
Summary
Cancel

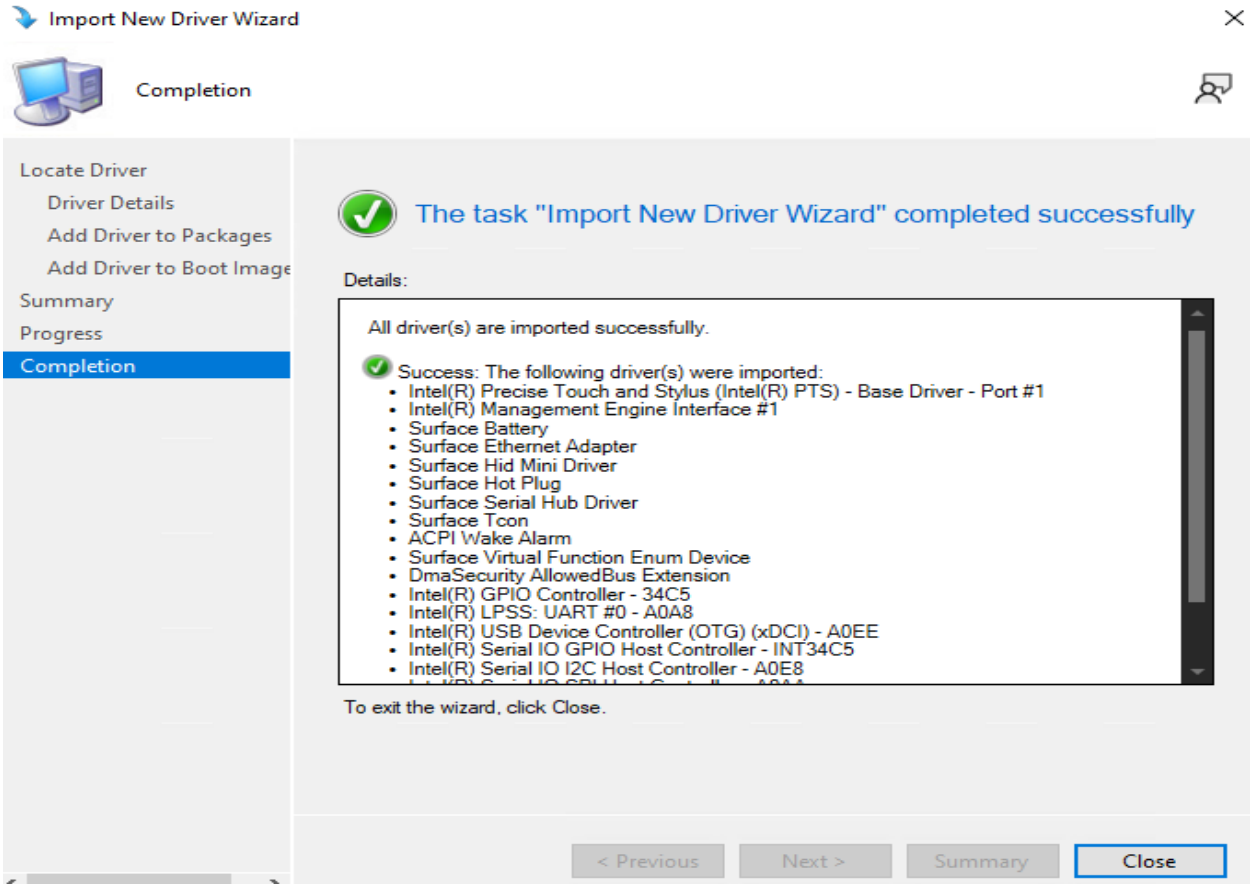

Import New Driver Wizard
Add Driver to Packages
Locate Driver
Driver Details
Add Driver to Packages
Add Driver to Boot Image
Summary
Progress
Completion
Select the packages to add the imported driver
Specify the package to add this driver to.
Drivers must be added to packages and deployed to distribution points before computers can use them. Distribution points can be updated immediately.
It is recommended that you add all required drivers before updating the package.
Name
Package ID
Lenovo Tablet X1 Gen 3
TOR00030
Surface Pro Laptop 4
TOR001D2
Select All
Clear All
New Package...
< Previous
Next >
Summary
Cancel

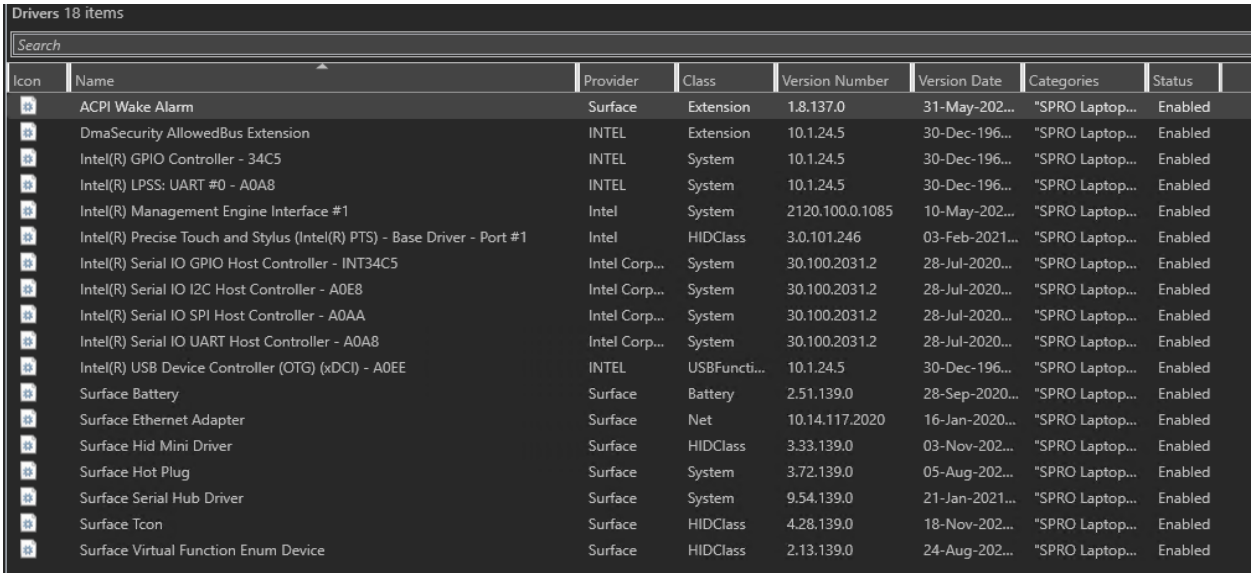

Import New Driver Wizard
Add Driver to Boot Images
Locate Driver
Driver Details
Add Driver to Packages
Add Driver to Boot Image
Summary
Progress
Completion
Select drivers to include in the boot image
The imported driver is a network card driver or mass storage device driver and might be necessary for a computer to start.
Select the boot images to include this driver.
Note: Boot images must be updated on their distribution points to add the new drivers.
Name
Package ID
Boot image (x64)
TOR00005
Boot image (x86)
TOR00002
MDT 8456 Boot Capture x64
TOR0001E
Select All
Clear All
< Previous
Next >
Summary
Cancel


Configuration Manager
Before computers can use the drivers you have added to (or removed from) the selected boot image, you must process the boot image to recreate it with your expected list of drivers and update the content on distribution points.
Do you want Configuration Manager to start this process? If you click 'No', after the wizard is finished you must manually start this process by running the 'Update Distribution Point' action on each updated boot image before they can be used with the expected list of drivers.
Yes
No

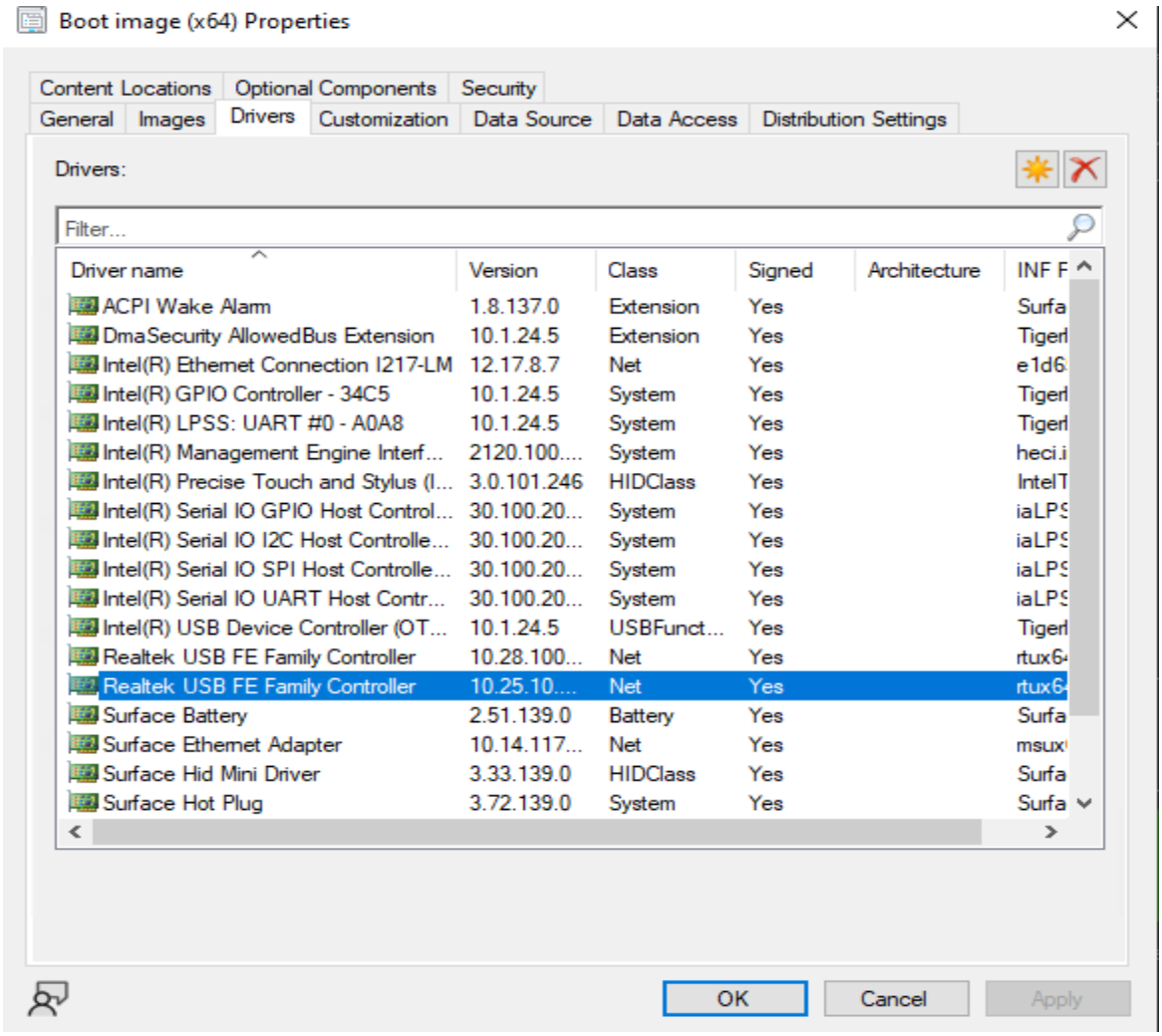

Configuration Manager
One or more of the selected drivers is not in a storage or network class. You should only add drivers to your boot images that are required to boot.
Are you sure you want to add the selected drivers to this boot image?
Yes
No


Import New Driver Wizard
Summary
Locate Driver
Driver Details
Add Driver to Packages
Add Driver to Boot Image
Summary
Progress
Completion
The wizard will import the following drivers
Details:
Verify the following drivers for importing.
The following driver(s) will be imported:
Intel(R) Precise Touch and Stylus (Intel(R) PTS) - Base Driver - Port #1
Intel(R) Management Engine Interface #1
Surface Battery
Surface Ethernet Adapter
Surface Hid Mini Driver
Surface Hot Plug
Surface Serial Hub Driver
Surface Tcon
ACPI Wake Alarm
Surface Virtual Function Enum Device
DmaSecurity AllowedBus Extension
Intel(R) GPIO Controller - 34C5
Intel(R) LPSS: UART #0 - A0A8
Intel(R) USB Device Controller (OTG) (xDCI) - A0EE
Intel(R) Serial IO GPIO Host Controller - INT34C5
Intel(R) Serial IO I2C Host Controller - A0E8
Intel(R) Serial IO SPI Host Controller - A0AA
Intel(R) Serial IO UART Host Controller - A0A8
To change these settings, click Previous. To apply the settings, click Next.
< Previous
Next >
Summary
Cancel


Import New Driver Wizard
Completion
Locate Driver
Driver Details
Add Driver to Packages
Add Driver to Boot Image
Summary
Progress
Completion
The task "Import New Driver Wizard" completed successfully
Details:
All driver(s) are imported successfully.
Success: The following driver(s) were imported:
Intel(R) Precise Touch and Stylus (Intel(R) PTS) - Base Driver - Port #1
Intel(R) Management Engine Interface #1
Surface Battery
Surface Ethernet Adapter
Surface Hid Mini Driver
Surface Hot Plug
Surface Serial Hub Driver
Surface Tcon
ACPI Wake Alarm
Surface Virtual Function Enum Device
DmaSecurity AllowedBus Extension
Intel(R) GPIO Controller - 34C5
Intel(R) LPSS: UART #0 - A0A8
Intel(R) USB Device Controller (OTG) (xDCI) - A0EE
Intel(R) Serial IO GPIO Host Controller - INT34C5
Intel(R) Serial IO I2C Host Controller - A0E8
To exit the wizard, click Close.
< Previous
Next >
Summary
Close



If you look at the boot image it has all the drivers for Surface Pro Laptop 4. Now we should be able to test and see, if touch screen, keyboard and mouse works during PXE boot.



If you are using MDT follow these steps

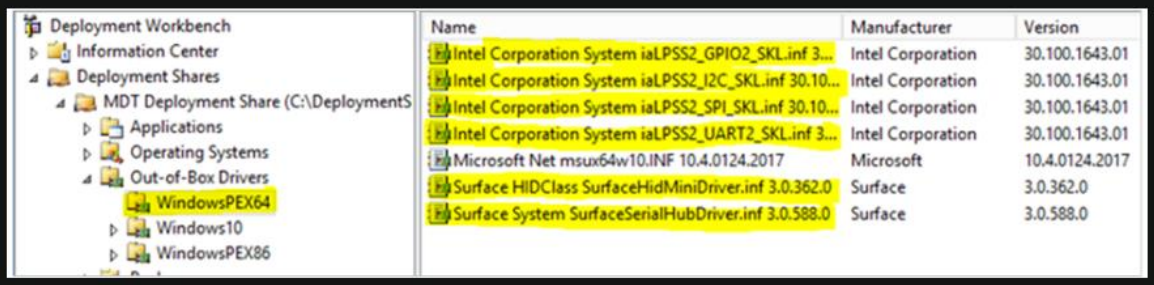
3. Open the Deployment Workbench and expand the **Deployment Shares** node and your deployment share, then navigate to the **WindowsPEX64** folder.

4. Right-click the **WindowsPEX64** folder and select **Import Drivers**.

5. Follow the instructions in the Import Driver Wizard to import the driver folders into the WindowsPEX64 folder.

Verify imported drivers & configure Windows PE properties

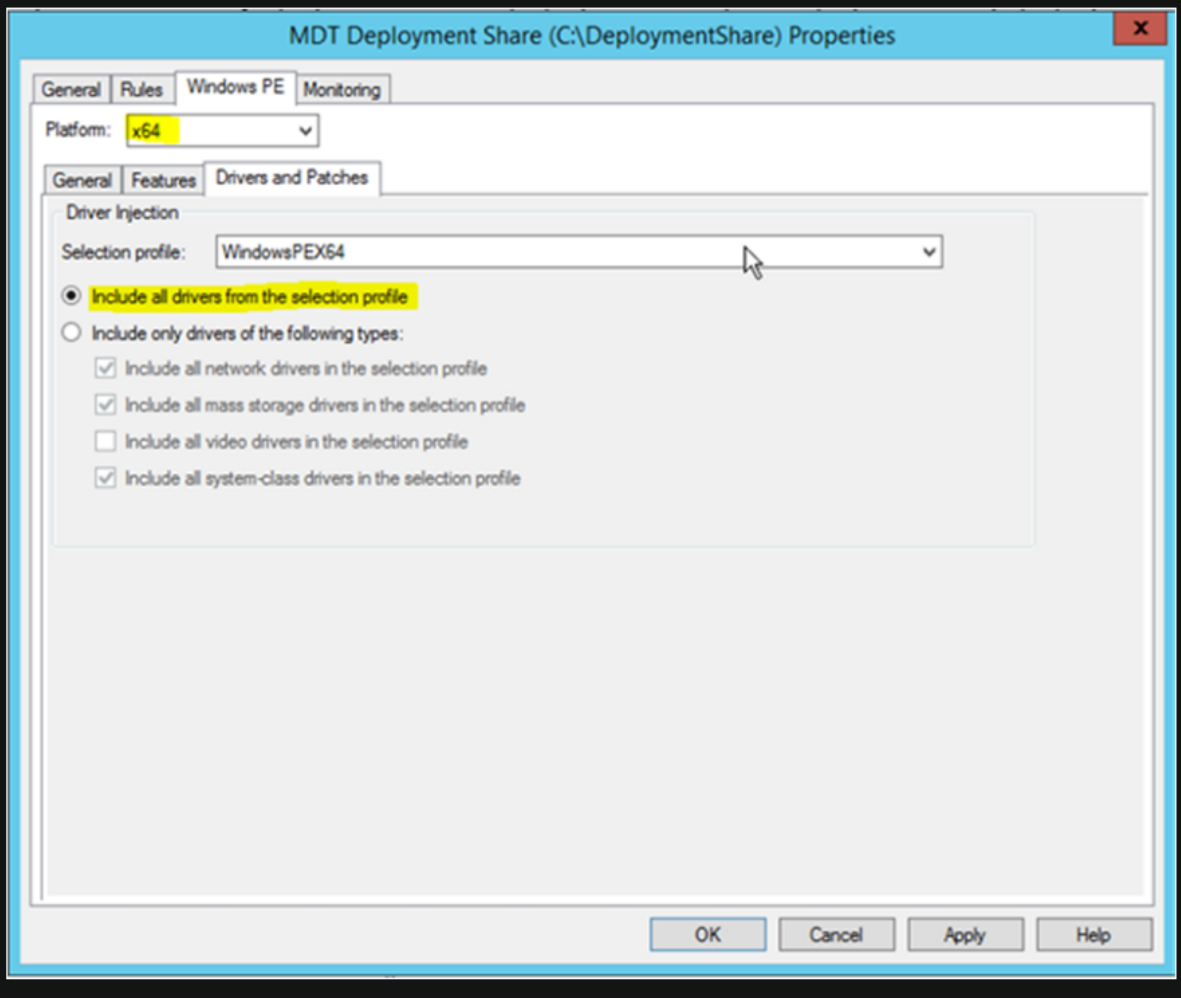
1. Verify that the WindowsPEX64 folder now contains the imported drivers, as shown in the following figure:



2. Configure a selection profile that uses the WindowsPEX64 folder, as shown in the following figure:

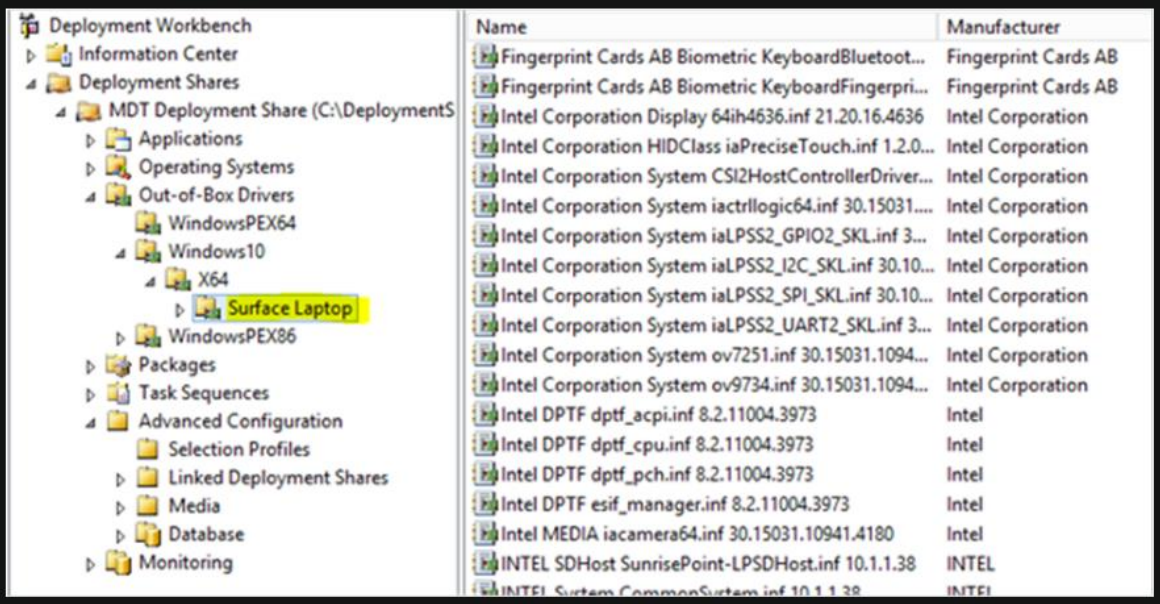
3. Configure the Windows PE properties of the MDT deployment share to use the new selection profile, as follows:

- For **Platform**, select **x64**.
- For **Selection profile**, select the new profile.
- Select **Include all drivers from the selection profile**.



4. Verify that you have configured the remaining Surface Laptop drivers by using either a selection profile or a **DriverGroup001** variable.

   - For Surface Laptop (1st Gen), the model is **Surface Laptop**. The remaining Surface Laptop drivers should reside in the \MDT Deployment Share\Out-of-Box Drivers\Windows10\X64\Surface Laptop folder as shown in the following figure.
   - For Surface Laptop 2, the model is **Surface Laptop 2**. The remaining Surface Laptop drivers should reside in the \MDT Deployment Share\Out-of-Box Drivers\Windows10\X64\Surface Laptop 2 folder.
   - For Surface Laptop 3 with Intel processor, the model is Surface Laptop 3. The remaining Surface Laptop drivers are located in the \MDT Deployment Share\Out-of-Box Drivers\Windows10\X64\Surface Laptop 3 folder.



After configuring the MDT Deployment Share to use the new selection profile and related settings, continue the deployment process as described in Deploy a Windows 10 image using MDT: Step 6: Create the deployment task sequence.

These are the steps on how to import drivers in SCCM and MDT for Surface Pro Laptop 4.

Thanks

Ram
25th Jul 2022